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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,265	09/29/2003	Kevin Brown	SVL920030045US1	4880
47069 7590 02/08/2007 KONRAD RAYNES & VICTOR, LLP ATTN: IBM54 315 SOUTH BEVERLY DRIVE, SUITE 210 BEVERLY HILLS, CA 90212			EXAMINER TIMBLIN, ROBERT M	
			ART UNIT 2167	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/675,265

Applicant(s)

BROWN ET AL.

Examiner

Robert M. Timblin

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/22/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This office action is responsive to application 10/675,265 filed 9/29/2003.

### ***Response to Amendment***

The Examiner has acknowledged and entered amendments made to claims 1-39 in this application. Accordingly, claims 1-39 have been examined and are pending prosecution.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 11/22/2006 has been corrected accordingly and is being entered and considered by the Examiner.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: the phrase "...results in a match" should be corrected to read "results in a match" (i.e. there is a space in the word "results"). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

Art Unit: 2167

351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Andrei (U.S. Patent 6,801,905 B2). In the following passages, figures and reference numbers, Andre teaches:

With respect to claim 1, a method for processing predicates in an iterator function, comprising:

under control of an iterator function processor that executes as part of a data store engine (figure 3 and drawing reference 360), when an iterator function included in a statement is invoked (figure 8A col. 11 line 4-13 and col. 24 line 25-67),

obtaining one or more predicates included in the statement (figures 5 and 8A, at least reference numbers 801 and 802, col. 11 line 3-10, and col. 13, example 1);

applying the one or more predicates to a row of data (col. 17 line 15-25);

if applying the one or more predicates results in a match, returning the row of data (col. 11 line 33-40); and

if applying the one or more predicates does not result in a match, searching for another row of data for which application of the one or more predicates results in a match (col. 11, line 33-40. Therein Andrei teaches retrieving relevant rows).

With respect to claim 2, the method of claim 1, wherein obtaining the one or more predicates comprises:

obtaining a qualification descriptor that describes the one or more predicates and one or more functions that are used to process the one or more predicates (figure 5).

With respect to claim 3, the method of claim 2, wherein each function is used to process one of the predicates (col. 31, line 1-11).

With respect to claim 4, the method of claim 1, wherein each of the one or more predicates comprises a simple predicate (example 1 in column 13).

With respect to claim 5, the method of claim 1, wherein the iterator function is invoked by the data store engine (360) and further comprising: returning the row of data to the data store engine (col. 11, line 33-40).

With respect to claim 6, a method for processing predicates, comprising:  
receiving a statement including an iterator function and one or more predicates (figure 8A);

creating a qualification descriptor that describes the one or more predicates and one or more functions that are to be used to evaluate the one or more predicates (figure 5); and

invoking the iterator function one or more times (figure 8B, reference 809), until receiving a done indicator from the iterator function (DONE in figure 8B), wherein each invocation of the iterator function results in receiving either a row of data for which at least one predicate has been applied (col. 11 line 33-40) or the done indicator (DONE in

figure 8B) and wherein one or more of the predicates included in the statement that have not been applied by the iterator function are applied by the data store engine (figure 5; applying predicates).

With respect to claim 7, the method of claim 6, wherein the qualification descriptor provides a handle to each of the one or more functions (figure 5 and predicates to apply row).

With respect to claim 8, the method of claim 6, further comprising: when the iterator function is invoked, receiving an indication from the iterator function indicating whether the one or more predicates were applied by the iterator function (fig. 5, applied predicates).

With respect to claim 9, the method of claim 6, further comprising:

when the iterator function is invoked, receiving a row of data from the iterator function that matches the qualification of the one or more predicates (col. 11, line 33-40. Therein Andrei teaches retrieving relevant rows).

With respect to claim 10, the method of claim 9, further comprising:

applying one or more additional predicates to the received row of data, wherein the one or more additional predicates refer to a column of data that is not in a result set generated by the iterator function (figure 5 and col. 6, line 23-41).

Art Unit: 2167

With respect to claim 11, the method of claim 9, further comprising:

applying one or more additional predicates to the received row of data, wherein the one or more additional predicates performs a join between two tables (col. 5, line 9-18 and figure 4).

With respect to claim 12, a method for processing predicates, comprising:

under control of a data store engine (360),

receiving a statement including an iterator function and one or more predicates (figure 8A);

creating a qualification descriptor that describes the one or more predicates and one or more functions that are to be used to evaluate the one or more predicates (figure 5); and

invoking the iterator function (figure 8B, reference 809);

under control of an iterator function processor (figure 3, 340),

retrieving the qualification descriptor (figure. 5);

obtaining a row of data that matches at least one of the one or more predicates in the qualification descriptor (col. 3, line 20-27 and col. 11 line 33-40);

setting indicators to indicate which of the one or more predicates have been applied by the iterator function processor (figure. 5, applied predicates); and

returning the row of data to the data store engine (col. 11 line 33-40); and

under control of the data store engine (360),

applying any of the one or more of the predicates included in the statement that have not been applied by the iterator function processor (figure 5; applying predicates).

With respect to claim 13, the method of claim 12, wherein the qualification descriptor describes one or more simple predicates to be applied by the iterator function processor (figure 5).

With respect to claim 14, an article of manufacture including a program for processing predicates in an iterator function, wherein the program causes operations to be performed, the operations comprising:

under control of an iterator function processor that executes as part of a data store engine (360), when an iterator function included in a statement is invoked (figure 3 and drawing reference 360),

obtaining one or more predicates included in the statement (figures 5 and 8A, at least reference numbers 801 and 802, col. 11 line 3-10, and col. 13, example 1);

applying the one or more predicates to a row of data (col. 17 line 15-25);

if applying the one or more predicates results in a match, returning the row of data (col. 11 line 33-40); and

if applying the one or more predicates does not result in a match, searching for another row of data for which application of the one or more predicates results in a match (col. 11, line 33-40. Therein Andrei teaches retrieving relevant rows).

With respect to claim 15, the article of manufacture of claim 14, wherein operations for obtaining the one or more predicates further comprise: obtaining a



Art Unit: 2167

qualification descriptor that describes the one or more predicates and one or more functions that are used to process the one or more predicates (figure 5).

With respect to claim 16, the article of manufacture of claim 15, wherein each function is used to process one of the predicates (col. 31, line 1-11).

With respect to claim 17, the article of manufacture of claim 14, wherein each of the one or more predicates comprises a simple predicate (example 1 in column 13).

With respect to claim 18, the article of manufacture of claim 14, wherein the iterator function is invoked by a data store engine (360) and wherein the operations further comprise: returning the row of data to the data store engine (col. 11, line 33-40).

With respect to claim 19, an article of manufacture including a program for processing predicates, wherein the program causes operations to be performed, the operations comprising:

receiving a statement including an iterator function and one or more predicates (figure 8A);

creating a qualification descriptor that describes the one or more predicates and one or more functions that are to be used to evaluate the one or more predicates (figure 5); and

invoking the iterator function one or more times (figure 8B, reference 809), until receiving a done indicator from the iterator function (DONE in figure 8B), wherein each

Art Unit: 2167

invocation of the iterator function results in receiving either a row of data for which at least one predicate has been applied (col. 11 line 33-40) or the done indicator (DONE in figure 8B) and wherein one or more of the predicates included in the statement that have not been applied by the iterator function are applied by the data store engine (figure 5; applying predicates).

With respect to claim 20, the article of manufacture of claim 19, wherein the qualification descriptor provides a handle to each of the one or more functions (figure 5 and predicates to apply row).

With respect to claim 21, the article of manufacture of claim 19, wherein the operations further comprise: when the iterator function is invoked, receiving an indication from the iterator function indicating whether the one or more predicates were applied by the iterator function (figure 5, applied predicates).

With respect to claim 22, the article of manufacture of claim 19, wherein the operations further comprise: when the iterator function is invoked, receiving a row of data from the iterator function that matches the qualification of the one or more predicates (col. 11, line 33-40. Therein Andrei teaches retrieving relevant rows).

With respect to claim 23, the article of manufacture of claim 22, wherein the operations further comprise: applying one or more additional predicates to the received

Art Unit: 2167

row of data, wherein the one or more additional predicates refer to a column of data that is not in a result set generated by the iterator function (figure 5 and col. 6, line 23-41).

With respect to claim 24, the article of manufacture of claim 22, wherein the operations further comprise: applying one or more additional predicates to the received row of data, wherein the one or more additional predicates performs a join between two tables (col. 5, line 9-18 and figure 4).

With respect to claim 25, an article of manufacture including a program for processing predicates, wherein the program causes operations to be performed, the operations comprising:

under control of a data store engine (360),

receiving a statement including an iterator function and one or more predicates (figure 8A);

creating a qualification descriptor that describes the one or more predicates and one or more functions that are to be used to evaluate the one or more predicates (figure 5); and

invoking the iterator function (figure 8B, reference 809); and

under control of an iterator function processor (figure 3, 340),

retrieving the qualification descriptor (figure. 5);

obtaining a row of data that matches at least one of the one or more predicates in the qualification descriptor (col. 3, line 20-27 and col. 11 line 33-40); and

Art Unit: 2167

setting indicators to indicate which of the one or more predicates have been applied by the iterator function processor (figure. 5, applied predicates);  
returning the row of data to the data store engine (col. 11 line 33-40); and  
under control of the data store engine (360),  
applying any of the one or more of the predicates included in the statement that have not been applied by the iterator function processor (figure 5; applying predicates).

With respect to claim 26, the article of manufacture of claim 25, wherein the qualification descriptor describes one or more simple predicates to be applied by the iterator function processor (figure 5).

With respect to claim 27, a computer system having at least one program for processing predicates in an iterator function, comprising:

under control of an iterator function processor that executes as part of a data store engine(360), when an iterator function included in a statement is invoked,

obtaining one or more predicates included in the statement (figures 5 and 8A, at least reference numbers 801 and 802, col. 11 line 3-10, and col. 13, example 1);

applying the one or more predicates to a row of data (col. 17 line 15-25);

if applying the one or more predicates results in a match, returning the row of data (col. 11 line 33-40); and

if applying the one or more predicates does not result in a match, searching for another row of data for which application of the one or more predicates results in a match (col. 11, line 33-40. Therein Andrei teaches retrieving relevant rows).

With respect to claim 28, the computer system of claim 27, wherein obtaining the one or more predicates comprises: obtaining a qualification descriptor that describes the one or more predicates and one or more functions that are used to process the one or more predicates (figure 5).

With respect to claim 29, the computer system of claim 28, wherein each function is used to process one of the predicates (col. 31, line 1-11).

With respect to claim 30. The computer system of claim 27, wherein each of the one or more predicates comprises a simple predicate (example 1 in column 13).

With respect to claim 31 the computer system of claim 27, wherein the iterator function is invoked by a data store engine (360) and further comprising: returning the row of data to the data store engine (col. 11, line 33-40).

With respect to claim 32, a computer system having at least one program for processing predicates, comprising:

under control of a data store engine (360),

receiving a statement including an iterator function and one or more predicates (figure 8A);

creating a qualification descriptor that describes the one or more predicates and one or more functions that are to be used to evaluate the one or more predicates (figure 5); and

invoking the iterator function one or more times (figure 8B, reference 809), until receiving a done indicator from the iterator function (DONE in figure 8B) wherein each invocation of the iterator function results in receiving either a row of data for which at least one predicate has been applied (col. 11 line 33-40) or the done indicator (DONE in figure 8B) and wherein one or more of the predicates included in the statement that have not been applied by the iterator function are applied by the data store engine (figure 5; applying predicates).

With respect to claim 33, The computer system of claim 32, wherein the qualification descriptor provides a handle to each of the one or more functions (figure 5 and predicates to apply row).

With respect to claim 34. The computer system of claim 32, further comprising: when the iterator function is invoked, receiving an indication from the iterator function indicating whether the one or more predicates were applied by the iterator function (fig. 5, applied predicates).

With respect to claim 35, the computer system of claim 32, further comprising: when the iterator function is invoked, receiving a row of data from the iterator function

Art Unit: 2167

that matches the qualification of the one or more predicates (col. 11, line 33-40. Therein Andrei teaches retrieving relevant rows).

With respect to claim 36 the computer system of claim 35, further comprising: applying one or more additional predicates to the received row of data, wherein the one or more additional predicates refer to a column of data that is not in a result set generated by the iterator function (figure 5 and col. 6, line 23-41).

With respect to claim 37, the computer system of claim 35, further comprising: applying one or more additional predicates to the received row of data, wherein the one or more additional predicates performs a join between two tables (col. 5, line 9-18 and figure 4).

With respect to claim 38, a computer system for processing predicates, comprising:

under control of a data store engine (360),

means for receiving a statement including an iterator function and one or more predicates (figure 8A);

means for creating a qualification descriptor that describes the one or more predicates and one or more functions that are to be used to evaluate the one or more predicates (figure 5); and

means for invoking the iterator function (figure 8B, reference 809); and

under control of an iterator function processor (figure 3, 340),

Art Unit: 2167

means for retrieving the qualification descriptor (figure. 5);

means for obtaining a row of data that matches at least one of the one or more predicates in the qualification descriptor (col. 3, line 20-27 and col. 11 line 33-40);

means for setting indicators to indicate which of the one or more predicates have been applied by the iterator function processor (figure. 5, applied predicates);

and means for returning the row of data to the data store engine (col. 11 line 33-40); and

under control of the data store engine (360);

means for applying any of the one or more of the predicates included in the statement that have not been applied by the iterator function processor (figure 5; applying predicates);

With respect to claim 39, the computer system of claim 38, wherein the qualification descriptor describes one or more simple predicates to be applied by the iterator function processor (figure 5).

### ***Pertinent Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application 20020078015 A1 to Ponnekanti. The subject matter therein applies to the pending claims (i.e. processing iterator functions and qualifying rows).



### ***Response to Arguments***

Applicant's arguments, see pages 11-15 of the remarks/arguments filed 11/22/2006, with respect to the rejection(s) of claim(s) 1-39 under Melton have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Andrei.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2167.

### Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M. Timblin whose telephone number is 571-272-5627. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert M. Timblin



Patent Examiner AU(2167)  
1/23/2007



ALFORD KINDRED  
PRIMARY EXAMINER